

CLAIMS

What is claimed is:

- 1 1. A system comprising:
2 a plurality of web servers running the distributed authoring and versioning
3 (WebDAV) enabled hypertext transfer protocol (HTTP) coupled to the internet; and
4 a plurality of personal computers coupled to the internet, each personal computer
5 comprising an operating system extension that forwards file system requests involving file
6 systems stored on one of the plurality of web servers to a network access application
7 program on the personal computer that sends the file system requests as at least one
8 WebDAV or HTTP request to an appropriate web server.
- 1 2. The system of Claim 1 wherein the network access application program processes a
2 plurality of responses to the file system requests received as WebDAV or HTTP packets
3 and passes the responses to the operating system extension which forwards information
4 from the responses.
- 1 3. The system of Claim 2 wherein the file system requests involving file systems
2 stored on one of the plurality of web servers originate from an operating system client, and
3 the information from the responses is forwarded to the operating system client.
- 1 4. The system of Claim 3 wherein the operating system client is any of a plurality of
2 user accessible application programs.
- 1 5. The system of Claim 4 wherein the operating system extension and the network
2 access application program communicate with each other via sockets.

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- 1 6. A method comprising:
2 receiving a file system request involving a remote file system;
3 creating a hypertext transfer protocol (HTTP) or distributed authoring and
4 versioning (WebDAV) formatted request (HTTP/WebDAV formatted request);
5 forwarding the HTTP/WebDAV formatted request to an appropriate WebDAV
6 enabled HTTP server;
7 receiving a response from the WebDAV enabled HTTP server; and
8 transferring an information contained in the response.
- 1 7. The method of Claim 6 wherein receiving a file system request comprises:
2 obtaining the file system request from an operating system extension.
- 1 8. The method of Claim 6 wherein receiving a file system request comprises:
2 obtaining at least a uniform resource identifier (URI) and a request type.
- 1 9. The method of Claim 8 wherein creating comprises:
2 selecting an appropriate WebDAV/HTTP method responsive to the request type.
- 1 10. The method of Claim 6 further comprising:
2 extracting an information from the response.
- 1 11. The method of Claim 10 wherein extracting comprises:
2 converting a WebDAV/HTTP status code to a corresponding local operating system
3 error code.
- 1 12. The method of Claim 10 further comprising:
2 creating a local cache file to store at least the information.
- 1 13. The method of Claim 12 wherein transferring comprises:
2 passing a file handle to the local cache file or at least a portion of the information.

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1 14. The method of Claim 10 further comprising:

2 updating a local cache file responsive to the information.

1 15. A method comprising:

2 receiving a file system request from an application program via an application
3 program interface;

4 if the file system request involves a remote file system, forwarding the file system
5 request to a network access application program that creates a corresponding hypertext
6 transfer protocol (HTTP) or distributed authoring and versioning protocol (WebDAV)
7 formatted request (HTTP/WebDAV formatted request);

8 forwarding the HTTP/WebDAV formatted request to an appropriate WebDAV
9 enabled HTTP server over the Internet;

10 receiving a response from the WebDAV enabled HTTP server in WebDAV or
11 HTTP format such that the network access application program creates a reformatted
12 response; and

13 transferring the reformatted response to the application program via the application
14 program interface.

1 16. The method of Claim 15 wherein receiving a file system request comprises:

2 obtaining at least a uniform resource identifier (URI) and a request type.

1 17. The method of Claim 15 wherein receiving a response further comprises:

2 creating a local cache file to store an information extracted from the response.

1 18. The method of Claim 17 wherein transferring comprises:

2 passing a file handle to the local cache file or at least a portion of the information.

1 19. The method of Claim 15 further comprising:

2 updating a local cache file responsive to an information extracted from the response.

1 20. The method of Claim 15 further comprising:

2 if the file system request involves a locally cached remote file system, obtaining
3 information responsive to the file system request from a local cache file.

1 21. The method of Claim 20 wherein receiving a file system request comprises:

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2         extracting a file handle to the locally cached remote file system from the file system
3 request.

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22. The method of Claim 20 wherein forwarding the request to a seamless file system,
forwarding the HTTP/WebDAV formatted request, and receiving a response are bypassed
when the file system request involves the locally cached remote file system.

23. A machine readable medium having stored thereon instructions which when executed by a processor cause the machine to perform operations comprising:

3 receiving a file system request from an application program via an application
4 program interface;

5 if the file system request involves a remote file system, forwarding the file system
6 request to a network access application program that creates a corresponding hypertext
7 transfer protocol (HTTP) or distributed authoring and versioning protocol (WebDAV)
8 formatted request (HTTP/WebDAV formatted request);

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9      forwarding the HTTP/WebDAV formatted request to an appropriate WebDAV
10     enabled HTTP server over the Internet;

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11 receiving a response from the WebDAV enabled HTTP server in WebDAV or
12 HTTP format such that the network access application program creates a reformatted
13 response; and

14 transferring the reformatted response to the application program via the application
15 program interface.

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1 24. The machine readable medium of Claim 23 wherein receiving a file system request
2 comprises:
3 obtaining at least a uniform resource locator (URL) and a request type.

1 25. The machine readable medium of Claim 24 wherein receiving a response comprises:
2 if a corresponding local cache file exists, updating the corresponding local cache file
3 responsive to an information extracted from the response; and
4 if the corresponding local cache file does not exist, creating the corresponding local
5 cache file to store the information extracted from the response.

1 26. The machine readable medium of Claim 25 wherein transferring comprises:
2 passing a file handle to the corresponding local cache file or at least a portion of the
3 information.

1 27. The machine readable medium of Claim 23 wherein the instructions executed by the
2 processor cause the system to perform operations further comprising:
3 if the file system request involves a locally cached remote file system, obtaining
4 information responsive to the file system request from a local cache file.

1 28. The machine readable medium of Claim 27 wherein receiving the file system request
2 comprises:
3 extracting a file handle to the locally cached remote file system from the file system
4 request.

1 29. The machine readable medium of Claim 27 wherein forwarding the request to a
2 seamless file system, forwarding the HTTP/WebDAV formatted request, and receiving a
3 response are bypassed when the file system request involves the locally cached remote file
4 system.

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1 30. A machine readable medium having stored thereon instructions which when
2 executed by a processor cause the machine to perform operations comprising:
3 receiving a file system request involving a remote file system;
4 creating a hypertext transfer protocol (HTTP) or distributed authoring and
5 versioning (WebDAV) formatted request (HTTP/WebDAV formatted request);
6 forwarding the HTTP/WebDAV formatted request to an appropriate WebDAV
7 enabled HTTP server;
8 receiving a response from the WebDAV enabled HTTP server; and
9 transferring an information contained in the response.

1 31. The machine readable medium of Claim 30 wherein receiving a file system request
2 comprises:
3 obtaining the file system request from an operating system extension.

1 32. The machine readable medium of Claim 30 wherein receiving a file system request
2 comprises:
3 obtaining at least a uniform resource identifier (URI) and a request type.

1 33. The machine readable medium of Claim 32 wherein creating comprises:
2 selecting an appropriate WebDAV/HTTP method responsive to the request type.

1 34. The machine readable medium of Claim 30 wherein the instructions executed by the
2 processor cause the system to perform operations further comprising:
3 extracting an information from the response.

1 35. The machine readable medium of Claim 30 wherein extracting comprises:
2 converting a WebDAV/HTTP status code to a corresponding local operating system
3 error code.

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1 36. The machine readable medium of Claim 34 wherein the instructions executed by the
2 processor cause the system to perform operations further comprising:
3 creating a local cache file to store at least the information.

1 37. The machine readable medium of Claim 36 wherein transferring comprises:
2 passing a file handle to the local cache file or at least a portion of the information.

1 38. The machine readable medium of Claim 34 wherein the instructions executed by the
2 processor cause the system to perform operations further comprising:
3 updating a local cache file responsive to the information.

1 39. A computer system comprising:
2 at least one application program;
3 an operating system providing a file system interface;
4 an operating system extension to receive from the file system interface of the
5 operating system a request for a remotely stored file that initiated from the application
6 program and to forward the request for the remotely stored file;
7 a network access application program to receive the request for the remotely stored
8 file from the operating system extension, to translate a file name information specified in the
9 request from a local file system syntax to a remote server syntax, and to package the request
10 according to a well known protocol for communication to a user specified remote computer
11 system over a network.

1 40. The computer system of Claim 39 wherein the network access application program
2 reformats a response received from the user specified remote computer system, including
3 reverse translating any file name information from a remote server syntax to a local file
4 system syntax, and forwards a reformatted response to the operating system extension
5 program.

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1 41. The computer system of Claim 40 wherein the remote server syntax is the syntax of
2 a uniform resource identifier (URI).

1 42. A method comprising:
2 receiving a file system request from an application program;
3 if the file system request involves a remote file system on a remote computer
4 system, forwarding the request to a network access application program which translates a
5 file name information specified in the request from a local file system syntax to a remote
6 server syntax and communicates the request in a well known format to the remote computer
7 system over a wide area network;
8 reformatting a response from the remote computer system forwarded by the remote
9 access application program which reverse translates any file name information specified in
10 the response from the remote server syntax to the local file system syntax; and
11 transferring the reformatted response to the application program.

1 43. The method of Claim 42 wherein receiving comprises:
2 obtaining the file system request via a local file system interface of an operating
3 system.

1 44. The method of Claim 42 wherein the remote server syntax is the syntax of a
2 uniform resource identifier (URI).